

We claim:

1. A noninvasive method for monitoring at least one hair characteristic on a human or animal, comprising

magnifying a predetermined skin area having reference indicia to provide a first magnified image;

5 digitally capturing the first magnified image to form a reference image; after a predetermined time period, magnifying the predetermined skin area to provide a second magnified image; and

superimposing the second magnified image on the reference image to align the reference indicia in the second magnified image with the reference indicia in the reference image.

10 2. The method according to claim 1, further comprising digitally capturing the superimposed images to form a treatment image.

3. The method according to claim 1, wherein the first and second magnified images are provided by contacting the predetermined skin area with a fiber optic remote head video microscope.

4. The method according to claim 3, wherein the fiber optic remote head video microscope includes a transparent member adapted to contact the predetermined skin area and flatten hairs within the predetermined skin area.

5. The method according to claim 4, wherein an optical coupling liquid is applied to the predetermined skin area prior to contact of the predetermined skin area with the fiber optic remote head video microscope.

6. The method according to claim 5, wherein the optical coupling liquid comprises water.

7. The method according to claim 5, wherein the optical coupling liquid comprises mineral oil.

8. The method according to claim 1, wherein the predetermined skin area comprises a scalp area.

9. The method according to claim 8, wherein the predetermined skin area comprises a transitional scalp area.

10. The method according to claim 1, wherein hair in the predetermined skin area is clipped prior to magnification to provide the first magnified image.

11. The method according to claim 1, wherein the predetermined skin area is magnified greater than ten fold to provide the first and second magnified images.

12. The method according to claim 1, wherein the predetermined skin area is magnified greater than twenty fold to provide the first and second magnified images.

13. The method according to claim 2, wherein the reference image and the treatment image are compared to evaluate the respective lengths of individual hairs in the images.

14. The method according to claim 2, wherein the reference image and the treatment image are compared to evaluate the respective hair shaft diameters of individual hairs in the images.

15. The method according to claim 2, wherein the reference image and the treatment image are compared to evaluate the respective numbers of individual hairs in the images.

16. The method according to claim 2, wherein the reference image and the treatment image are compared to evaluate the respective lengths, hair shaft diameters and numbers of individual hairs in the images.

17. The method according to claim 1, wherein the reference image is formed by digitally capturing the first magnified image using only a red color component.

18. The method according to claim 17, wherein the second magnified image is digitally captured using green and blue color components.
19. The method according to claim 2, wherein after a further predetermined time period, the predetermined skin area is magnified to provide a third magnified image, and further wherein the third magnified image is superimposed on the reference image or the treatment image to align the reference indicia in the third magnified image with the reference indicia in the reference image or the treatment image, respectively.

20. A noninvasive method for monitoring at least one hair characteristic on a human or animal, comprising
- magnifying a predetermined skin area having reference indicia to provide a first magnified image;
- digitally capturing the first magnified image to form a reference image using only a red color component;
- after a predetermined time period, magnifying the predetermined skin area to provide a second magnified image;
- superimposing the second magnified image using green and blue color components on the reference image to align the reference indicia in the second magnified image with the reference indicia in the reference image; and

digitally capturing the superimposed images to form a treatment image wherein the first and second magnified images are provided by contacting the predetermined skin area with a fiber optic remote head video microscope.

21. The method according to claim 23, wherein the predetermined skin area is magnified greater than twenty fold to provide the first and second magnified images.

22. The method according to claim 20, wherein the reference image and the treatment image are compared to evaluate the respective lengths of individual hairs in the images.

23. The method according to claim 20, wherein the reference image and the treatment image are compared to evaluate the respective hair shaft diameters of individual hairs in the images.

24. The method according to claim 20, wherein the reference image and the treatment image are compared to evaluate the respective numbers of individual hairs in the images.

25. The method according to claim 20, wherein the reference image and the treatment image are compared to evaluate the respective lengths, hair shaft diameters and numbers of individual hairs in the images.

26. The method according to claim 20, wherein the predetermined skin area comprises a transitional scalp area.

27. Apparatus for noninvasive monitoring of at least one hair characteristic on a human or animal, comprising

a fiber optic remote head video microscope;

means for digitally capturing a first magnified image provided by the microscope to form a reference image; and

means for superimposing a second magnified image provided by the microscope on the reference image and aligning reference indicia in the second magnified image with reference indicia in the reference image.

28. The apparatus according to claim 27, further comprising means for digitally capturing the superimposed images to form a treatment image.

29. The apparatus according to claim 27, wherein the fiber optic remote head microscope includes a transparent member adapted to contact a skin area and flatten hairs within the skin area.

30. The apparatus according to claim 27, further comprising a computer screen for viewing the magnified images.

31. The apparatus according to claim 30, wherein the computer screen is adapted for viewing the digitally captured image.

32. The apparatus according to claim 31, wherein the computer screen is adapted for viewing the superimposed images.

33. The apparatus according to claim 28, wherein the means for digitally capturing a first magnified image forms a reference image using only a red color component.

34. The apparatus according to claim 33, wherein the means for digitally capturing the superimposed images uses a second magnified image using only green and blue color components.